WHAT DETERMINES THE VOLUME OF A COUNTRY'S INTERNATIONAL TRADE

The purpose of this article is to analyze the influences which govern the volume of the merchandise exports and imports of a country. The elements of the theoretical reasoning which is used have long been familiar to students. In the course of the article, the effect upon the volume of merchandise trade produced by other international transactions, such as security sales, immigrant remittances and the like, will be left out of consideration; it will be assumed that none such take place. That is permissible because the manner in which they complicate the results is well understood.

In order to get a correct light on the problem, it is necessary to restate some well-established first principles. In illustration we will use two such countries as economists conjure up in preference to dealing with existing countries. For arbitrary conditions must sometimes be introduced to simplify the reasoning, and that is best done with imaginary examples. Then too only those instances will carry us further which settle one quarrel without opening another. Let us then imagine two countries, country A and country B; let us suppose that they are on a gold standard basis. Furthermore, the expense of transportation from one country to another may be regarded as an expense of production in the country of origin. The merchants of country A and country B meet for the first time. Upon comparing their wares it turns out that the merchants of B can quote lower prices than the merchants of A for wine and cloth. The merchants of A cannot quote lower prices than those of B on any commodities. A will import both wine and cloth. Since payment is not made in commodities, gold would flow out of A into B. This flow of gold, if steadily continued under the conditions outlined, would in time be likely to produce an upward movement of income and price levels in B, and downward movement in A. In the course of these changes the prices of wine and cloth would rise in B. This would continue, let us say, until the price the merchants of B can make for cloth rises above the price which the merchants of A make for the same product, the merchants of B being still able to quote lower prices for wine. A would begin to export cloth instead of importing it. When the value of the cloth exported by A equalled the value of the wine imported by her, gold movement would cease.

In the language long applied to the subject, a balance of international merchandise payments will have been struck. B would be exporting the commodity in which she possessed the greatest comparative advantage, which is a way of saying that B would be exporting wine to A because the difference of effectiveness between B and A was

greater in the production of wine than in the production of any other commodity. B had more decided advantage over A in wine production than in any other direction. A would be exporting the commodity—cloth—in which she had the smallest comparative disadvantage. The generalization that may be made from this instance is that the long continued course of international trade brings about an endless series of comparisons between the effectiveness of each and every country in the production of all commodities. Those commodities are exported by each which come out relatively best in this series of comparisons. Another feature of the situation, as Taussig has emphasized, is that each country will be exporting those commodities which are low in price within her borders as compared with the price of the same commodities in the other countries.[1]

So much for first principles. Let us turn to our illustration and seek to analyze the conditions which determine whether a large or a small volume of commodities is exchanged between A and B. The first general conclusion that may be stated is as follows: that any cause which operates to increase the effectiveness of production of the export industries in any country, as compared with the effectiveness in the other industries in the same country, will increase the volume of trade between countries, and vice versa.

The soundness of this conclusion may be established by consideration of the illustration just used. Let us look at the matter from the point of view of B, and study the effects of some cause which operates to increase the effectiveness of production in B's export industries, as contrasted with the rest of B's industries. Assume, for example, that there is a falling off in effectiveness of all kinds of labor required in many industries in B, while it remains the same in the industries in which B already has the great comparative advantage (her export industries). Because of the fall in effectiveness of labor in a considerable range of industries, one of two series of events will take place.

Money incomes may remain the same despite the fact that fewer commodities than before are now being produced with the same labor in many industries. In that case prices in all these industries (the non-exporting) will rise. Or, if prices in these industries do not rise, money incomes throughout the country will fall because of the decrease in the effectiveness of production over a wide range of industries. If the first chain of events occurs—that is, if prices in the non-exporting industries rise—fewer of their products will be demanded than before and more imported commodities will be demanded, since their prices have remained unchanged. There would probably also be an increased demand at home for the products of the export industries, since their prices are likewise unchanged. But that fact may be disregarded on the

[1] *Cf.* Taussig, *Some Aspects of the Tariff Question*, ch. 1.

supposition of constant cost. With the rise in price of many domestic commodities and steadiness in price of the imports, there will be some transfer of demand to the imports. How great the transfer of demand will be will depend upon the extent of the rise in the prices of the non-exporting industries in B. The growth in the volume of imports will, if the accepted theory of international trade is correct, tend to produce an increase in the volume of exports.

The outcome will be the same if the second possible chain of events takes place—that is, if we reason on the supposition that the prices in the non-exporting industries in B remain the same as before the fall in effectiveness, while money incomes fall. For in that case expenses of production in the export industries would decrease, since their effectiveness has remained unchanged. And this fall in the expense of production would tend to cause a lowering of the prices of their products, which in turn would mean that more of their products would be demanded by other countries. In either event it seems clear that the enlarging of the difference of effectiveness between those industries already possessing the greatest comparative advantage (the export industries) and the other industries within the country will result in an increase in the country's merchandise exports and imports. The opposite will result from the opposite change.

If this conclusion is sound, a country in which a few important industries possessed unusual advantages in production as compared, firstly, with the advantages of the rest of the world in the same direction and, secondly, with the other industries within the country, should carry on a heavy import and export commerce. Certain tropical countries are probably in that condition. They are endowed by nature with certain natural resources, which enable them to excel the world greatly in the production of a few commodities. On the other hand, the effectiveness of production in general in those countries is low. Thus real wages and also money wages in those countries are very low, and form only a comparatively small obstacle of expense to the export industries, which can therefore offer their products at low price. The volume of such a country's exports and imports will be greater than it would be if the conditions described were not present. In this respect a country like the United States is in the opposite position. Here labor is applied effectively in a great many fields. There is probably no great difference of effectiveness between labor in the export industries and in many other industries. As a result the difference in comparative advantage between the export industries and other industries is smaller than it would be otherwise.

This influence upon the volume of international trade of a country may be summarized by saying that the volume will be the greater, the more unique and decided the advantages possessed by export industries

(those which have the greatest comparative advantage, or smallest disadvantage) in each and any country over all other industries in the same country.

There is one point in particular at which the correctness of the preceding analysis may seem open to question. It has been assumed that the demand for imported commodities is equally urgent with the demand for the commodities produced within the country. I know of no way of putting this assumption concerning demand more satisfactorily by the use of more technical terms. What is meant is that it has been assumed that the imported commodities occupy as important a place in the consumption habits of the community as the domestic ones; and, thus, that any change in their relative prices would result in a transfer of purchasing power to those which had become relatively the cheaper. This supposition was made when it was reasoned that, if the prices of the commodities produced by the non-exporting industries in B rose while the price of imported commodities remained the same, a transfer of demand to the imported commodities would result and the value of B's imports would increase. So also it was made in reasoning about the second possible course of events.

No such result would take place if the demand within the country for domestic commodities was much more urgent than that for the imports—if the purchase of domestic commodities would fall off but little or not at all as a result of an increase in their price. For under such circumstances the rise in the price of domestic commodities, even though it led to some decrease in the consumption of them, might mean that more purchasing power was spent upon them than before. In this case less could be spent for imported commodities than before. Such would be the fact if the commodities produced within the country were, in general, necessities either of life or industry, while those which were imported were not. On the other hand, if the demand for domestic commodities was not as urgent as that for imports, a more marked transfer of demand to imports than would otherwise occur would take place. Such would be the fact if the domestic commodities were on the whole not essentials of life or industry, and the imports were.

It is plain that the relative strength of demand for the products of domestic industries and for imported commodities is a factor in determining whether the volume of international trade carried on by a country is large or small. The influence may be expressed as follows: that the more strong and insistent the demand of each and every country for foreign products as compared with the demand in the same country for the products of its own industries, the larger the volume of imports and exports of any country will be.

The significance of this factor of relative demand can be seen in still another way by turning again to our illustration. Countries A and B

are trading with each other. A is exporting cloth to B, and is importing wine from B. A balance of international payments has arisen—the value of the cloth exported by A being equal to that of the wine imported by her. Let us again take the point of interest of country B, and assume that a change takes place in B which greatly increases the strength of demand on the part of B's inhabitants for the products of domestic industries as compared with the strength of their demand for cloth from A. Imagine, for example, that a new resource, coal, was discovered in B, and that this filled an important want. Imagine, further, that at the price at which it could be produced a considerable volume of it is bought; in other words, that its discovery has led to a new and powerful demand for a home product. For the sake of clearness, add that A has no use for coal and that thus it would not become an export, and disregard furthermore, its possible revolutionary effect upon industry.

The result of the change in relative demand—the fact that the new and important demand for a home product had arisen—would be to bring about a reduction of B's exports and imports for two reasons. First, the new demand for coal would lead to some reduction in demand for other commodities. The demand for imported goods among others would be reduced, it is safe to reason. Secondly, the new industry would compete with those already established in B, including the export industries, for the use of the available supply of the agents of production. If production was carried on in coal-mining with greater effectiveness than in some of the other industries, a rise in money incomes would tend to result. This would form a fresh obstacle to the export industries, and the prices of their commodities would tend to rise. The result would be a decrease in the volume of exports.[2]

The opposite case may be illustrated more briefly. Let us assume that, because of a change in consumption habits, B's demand for cloth increased while it remained unchanged in other respects. More cloth would be imported at the same price. The familiar reasoning on the subject concludes that an increase in B's exports would tend to result. The cause of the change would be the change in the relative demand of B's inhabitants for home products and imported products.

The part played by this factor of relative demand upon the volume of a country's exports and imports has, indeed, always been recognized in the reasoning on the subject. It helps to explain, for example, why a small country, such as Switzerland, is likely to conduct a large international trade. The resources of a small country are almost invariably limited in variety. Many of the things it desires most it is unable to produce at all. The relative strength of its demand for

[2]This conclusion is based on the assumption that demand in A for the products of home industries is as urgent as the demand for the commodities imported from B.

foreign products is great; the volume of its imports large, its exports correspondingly so. In this respect a country like the United States is in the opposite position. Its great area, variety of natural resources, and industrial and commercial adaptability enable it to produce a far greater number of essential products than most countries. The factor of comparative advantage, as briefly explained at the beginning of this article, may bring about that it imports many of them. For all that, the great variety and expanse of our resources does explain why our demand for foreign products is not stronger than it is. If, for example, all the coal resources of the North American continent lay on the other side of the Canadian border, our demand for foreign products as compared wth that for our own would be stronger than it is now, and the volume of American imports and exports greater. These statements are entirely in accord with the common observation that any country which is dependent upon others for such important products as coal, iron ore, grain, oil, and the like must and does carry on a considerable volume of foreign trade. From the point of view of any one country it can be said that its merchandise exports and imports will be great provided it is dependent upon other countries for products of great importance either to the life of its inhabitants or to the existence of its industry. Likewise they will be great, provided other countries are dependent upon it for commodities of this nature.

This conclusion becomes self-evident after short reflection. If all parts of the world were substantially alike—if all races of men were of the same character and had the same faculties, and if all countries had the same natural resources—no exchange would take place between the separated places in the world. For in no country would there be a demand for the product of others. But the differences in men's abilities and character and the natural differences between parts of the globe bring it about that each country desires greatly many products of others.

One other important influence upon the volume of the export and import trade of a country remains to be considered. Up to the present our reasoning has simply taken as given the general level of effectiveness in production of the countries of the globe—of countries A and B in our illustration. But the volume of export and import trade is greatly affected by this element. To phrase the matter in terms of the illustration, the volume of the commodity exports and imports between A and B will vary directly with the level of effectiveness that characterizes production in either country, and so of both countries. The correctness of this conclusion can be readily demonstrated.

Assume that as a result of war all industry is disorganized in B, much capital destroyed, and many able workmen killed. Assume that previous to this calamity a balance of international payments between

A and B had been struck, that the war did not produce any change in the consumption or industrial habits of the people of either country, and that they still desire each other's products as keenly as before. Nevertheless, the volume of goods exchanged would be less than before the war. For the great fall in effectiveness of production in B would produce a fall in *real* incomes in B. The people of B, although they desired as much of A's products as before, could not buy as much. For, due to the decrease in their incomes, they could buy fewer of all commodities, imported commodities included. The result, leaving all possible complicating influences out of consideration, would be a decline in imports, which gradually would bring about a decline in exports.

The significance of this conclusion need hardly be emphasized at the present time, when certain of the nations of the world which are in the most dire need can import little, while in certain others there is unemployment in the former export industries. The situation is directly due to the fact that in the present state of European economic, financial, and political disorganization, European labor and capital succeed in producing little in any of their applications. The people of Europe find all commodities dear, because their labor yields them but little; they thus can buy few imports. And as a result American and English export industries find themselves unable to secure a market for all their products. The exchange situation which is usually referred to as the chief explanation of this situation is but a secondary phase in it, and one that would remedy itself (I do not mean to imply that necessarily it should be left to do so) if European industry again attained its former producing powers.

The bearing of the foregoing upon the question we set out to consider may be summarized as follows: All other things being the same, the volume of export trade carried on by any country will be the greater, the more productive all industry is within its borders, and in every other country, and vice versa. The volume of international trade of any one country will tend to be great if, in all or almost all countries of the world, effort results in a great quantity of economic goods. A sort of economic interdependence between all countries of the world is implied in this fact. In much recent writing the nature of this interdependence has been carelessly portrayed; in spite of the indication of it yielded by the preceding analysis, it is not as simple as is often made out. Its significance for different countries varies. It is greatest for those in which the export industries employ a large part of the country's labor, and which are dependent upon other countries for many essential products. For these countries naturally suffer most from a destruction of international trade. This subject, however, is too great and important to permit incidental generalization.

One closing reflection is justified by the nature of the forces which,

we have seen, tend to govern the volume of a country's export and import trade; that is, how limited is the extent to which any one nation can control that volume. A multitude of conditions completely out of its grasp may have a more potent effect than all its carefully planned campaigns.

HERBERT FEIS.

University of Kansas.